

## Two new species of the genus *Storenomorpha* Simon from China (Araneae: Zodariidae)

Bao-Shi Zhang<sup>1,2</sup>, Ming-Sheng Zhu<sup>1\*</sup>

<sup>1</sup> College of Life Sciences, Hebei University, Baoding, Hebei 071002, P. R. China.

<sup>2</sup> Baoding College, Baoding, Hebei 071051, P. R. China

\* Corresponding author: mingshengzhu@263.net

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**Abstract** — Two new species of the genus *Storenomorpha* collected from South China, are described under the names: *S. stellmaculata* sp. nov. and *S. falcata* sp. nov.

**Key words** — Zodariidae, *Storenomorpha*, new species, South China.

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### Introduction

Spiders of the family Zodariidae are medium-sized and represented by 75 genera and 897 known species mainly in the Africa, Australia and Asia (Jocqué 1991; Platnick 2009). Only 23 species of five genera have been found in China mainly distributed in south. The five genera are *Asceua* Thorell, *Cydrela* Thorell, *Mallinella* Strand, *Storenomorpha* Simon and *Zodariellum* Andreeva & Tyschchenko (Song *et al.* 1999; Platnick 2009).

The genus *Storenomorpha* Simon, 1884 was revised by Jocqué & Bosmans (1989) and was designated as the type genus of the subfamily Storenomorphinae (Jocqué 1991). The genus *Storenomorpha* comprises large spiders with a contrasting colored body and differs from the remaining zodariids by the distally widened tarsi with dense scopulae and three tarsal claws, the paired ones implanted in a concavity (Jocqué 1991). Eleven species have been reported which are distributed in Asia (China, Myanmar, India, Thailand, Vietnam and Laos).

While examining specimens collected from South China, two new species, *S. stellmaculata* sp. nov. and *S. falcata* sp. nov. were recognized and are described below.

### Material and Methods

Terminology is standard for Araneae. All specimens were kept in 75% ethanol and examined, drawn and measured under a Tech XTL-II stereomicroscope equipped with an Abbe drawing device. Carapace length was measured from the anterior margin to the rear margin of the carapace medially. Eye sizes were measured as the maximum diameter in dorsal or frontal view. The measurements of legs are shown as follows total length (femur, patella, tibia, metatarsus, tarsus). The leg spination notation is standard for Araneae where possible. The epigyne was cleared in a warm solution of potassium hydroxide (KOH), transferred to water and temporarily mounted for drawing. All

measurements are given in millimeters. Type specimens are deposited in the Museum of Hebei University (MHBUS), Baoding, China.

The following abbreviations are used: ALE, anterior lateral eyes; AME, anterior median eyes; PLE, posterior lateral eyes; PME, posterior median eyes; MOA, median ocular area.

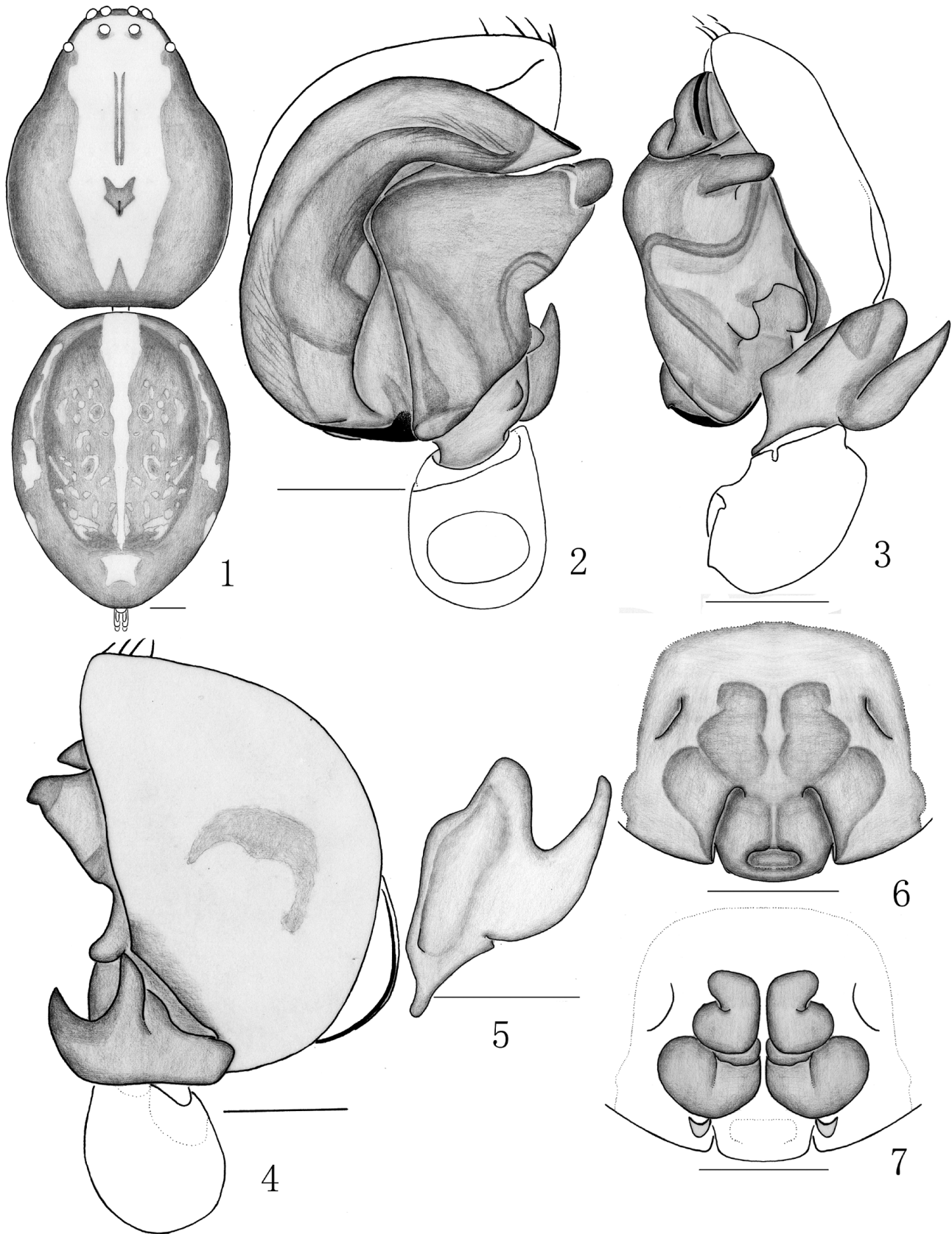
### *Storenomorpha stellmaculata* sp. nov. (Figs. 1–7)

*Type material.* Male holotype from Daqing Mts. Longzhou County (22°18'N, 106°42'E), Pingxiang City, Guangxi Province, China, 14 May 2006, M.S. Zhu leg. (MHBUS). Paratype: 1 female, same data as holotype.

*Diagnosis.* The new species resembles *Storenomorpha nupta* Jocqué & Bosmans, 1989 (Jocqué & Bosmans, 1989: 131, f. 16–19) from Myanmar and *Storenomorpha paguma* Grismado & Ramírez, 2004 (Grismado & Ramírez, 2004: 2, f. 1–12) from Vietnam in the general structure of the epigyne and palpal organ, but differs from *S. nupta* by: (1) the base of the retrolateral tibial apophysis winding in retrolateral view, in the latter thin; (2) embolus arising from the just bottom of genital bulb, in the latter arising from the lateral bottom of genital bulb; (3) anterior part of central plate wide, in the latter narrow; (4) abdominal pattern is different (Figs. 1–7). The new species differs from *S. paguma* by: (1) dorsolateral process of retrolateral tibial apophysis with narrow end, in the latter wide; (2) median apophysis big, in the latter small; (3) middle field of epigynum trapeziform, in the latter quadrangular; (4) abdominal pattern is different (Figs. 1–7).

*Etymology.* The specific name is a Latin adjective and refers to the shape of spot with dense whitish hairs above the spinnerets.

*Description.* Male (holotype). Total length 13.16. Carapace 6.12 long, 4.59 wide; abdomen 6.22 long, 4.49



**Figs. 1–7.** *Storenomorpha stellmaculata* sp. nov., 1–5, male holotype; 6–7, female paratype. — 1, body, dorsal view; 2, left palpal organ, ventral view; 3, same, retrolateral view; 4, same, dorsal view; 5, retrolateral tibial apophysis, ventral view; 6, epigyne, ventral view; 7, vulva, dorsal view. Scale bars: 1 mm.

wide. Carapace pear-shaped, cuticle granulated, black brown with median reddish brown stripe from the ocular area to the back and a pair of marginal thin stripes, covered by white pubescence, a pattern and a pair of thin stripes on median stripe without white pubescence. Fovea impression deep at middle of thoracic region. Eight eyes in two rows, anterior row slightly procurved, posterior row strongly recurved and wider than anterior row. Diameters of eyes: AME 0.13, ALE 0.13, PME 0.11, PLE 0.11. Interdistances of eyes: AME-AME 0.08, AME-ALE 0.03, PME-PME 0.10, PME-PL 0.33, ALE-PL 0.29. MOA length 0.34, front width 0.29, back width 0.29. Clypeus height 0.71, with several black hairs. Chelicerae without teeth on margins of fang furrow, black brown with sparse black hairs, the distal end brownish and armed with dense black hairs. Endites dark brown with sparse black hairs, the distal end white yellow and armed with dense black hairs. Labium 1.02 long, 0.51 wide, dark brown, the distal end white yellow. Sternum 2.35 long, 1.84 wide, dark brown and furnished with sparse black hairs. Legs strong and robust, coxae gray brown, trochanters dark brown, femora black brown and the base with a light annulus, the other segments brown and the two ends with a dark annulus except patellae. Tarsal paired claws strong curved and with about eight teeth. Measurements of legs: leg I 14.79 (4.18, 2.04, 3.98, 2.65, 1.94), II 12.64 (3.77, 2.04, 2.86, 2.24, 1.73), III 10.50 (3.47, 1.73, 2.14, 1.83, 1.33), IV 13.57 (4.08, 2.04, 3.16, 2.96, 1.33). Leg formula: 1423. The dorsum of abdomen dark brown with three lighter stripes with dense whitish hairs on median and each lateral parts, the width of median one not uniform, the lateral one consists of three patches in series; a wide stellated spot also with dense whitish hairs above the spinnerets; some erose brown little spots dispersed on both sides of median stripe (Fig. 1). Venter of abdomen brown with a pair of oblique black bands from epigastric furrow towards spinnerets. Pre-epigastric area black brown with a pair of lateral brown bands. Spinnerets gray brown.

The retrolateral tibial apophysis with a truncated distal margin and a long dorsolateral process. Conductor semicircular, massive. Embolus filiform, passing into the conductor groove. Median apophysis long and wide (Figs. 2–5).

Female: Total length 14.08. Carapace 6.02 long, 4.18 wide; abdomen 8.16 long, 6.83 wide. The markings, eyes arrangement are as same as the male, except coloration lighter. Diameters of eyes: AME 0.13, ALE 0.14, PME 0.11, PLE 0.13. Interdistances of eyes: AME-AME 0.09, AME-ALE 0.09, PME-PME 0.13, PME-PL 0.44, ALE-PL 0.43. MOA length 0.38, front width 0.29, back width 0.30. Clypeus height 1.12. Labium 1.12 long, 0.61 wide. Sternum 2.45 long, 1.94 wide. Measurements of legs: leg I 13.26 (3.98, 2.14, 3.16, 2.45, 1.53), II 12.44 (3.88, 2.14, 2.65, 2.24, 1.53), III 10.40 (3.26, 1.94, 2.14, 1.84, 1.22), IV 12.85 (3.88, 1.94, 3.16, 2.65, 1.22). Leg formula: 1423.

Middle field of female epigynum trapeziform in ventral

view, with deep posteroventral concavity. Copulatory ducts thick and coiled, spermathecae oval and situated near the posterior margin (Figs. 6–7).

*Distribution.* Known only from the type locality.

***Storenomorpha falcata* sp. nov.**

(Figs. 8–12)

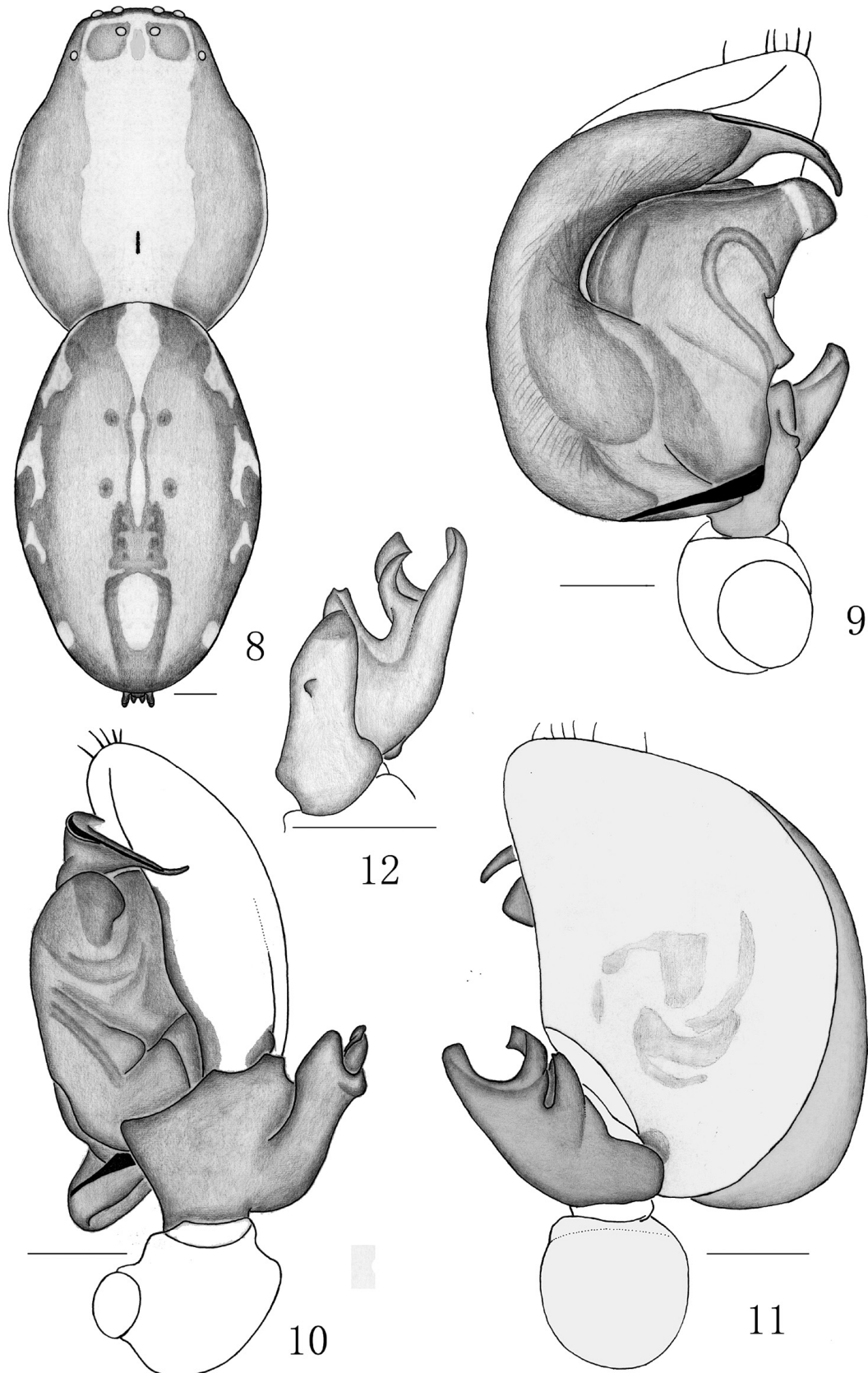
*Type material.* Male holotype from Longsheng County (25°55'N, 109°52'E), Guilin City, Guangxi Province, China, 12 September 2005, C. Gao leg. (MHBUS).

*Diagnosis.* The new species resembles *Storenomorpha yizhang* Yin & Bao, 2008 (Yin & Bao, 2008: 68, f. 16–23) from Hunan Province, China in the general structure of the palpal organ, but differs from the latter species by: (1) dorsal process of retrolateral tibial apophysis wide and twisty, in the latter thin, without twisty; (2) the genital bulb big, in the latter small; (3) the distal end of conductor blunt, in the latter acute (Figs. 9–12). The new species also resembles *Storenomorpha lushanensis* Yu & Chen, 2009 (Yu & Chen, in Yu *et al.*, 2009: 11, f. 1–12) from Jiangxi Province, China in the general structure of the palpal organ, but differs from the latter species by: (1) dorsal process of retrolateral tibial apophysis wide, in the latter thin; (2) median apophysis short and wide, in the latter long and thin; (3) the distal end of conductor long, in the latter short (Figs. 9–12).

*Etymology.* The specific name is a Latin adjective and refers to the shape of terminational conductor.

*Description.* Male (holotype). Total length 13.16. Carapace 6.12 long, 4.79 wide; abdomen 7.34 long, 4.69 wide. Carapace pear-shaped, black brown with median reddish brown stripe and a pair of thoracic marginal thin stripes, covered by white pubescence, and three dark brown patterns on anterior median stripe without white pubescence. Fovea impression deep at middle of thoracic region. Eight eyes in two rows, anterior row slightly procurved, posterior row strongly recurved and wider than anterior row. Diameters of eyes: AME 0.15, ALE 0.15, PME 0.10, PLE 0.15. Interdistances of eyes: AME-AME 0.11, AME-ALE 0.04, PME-PME 0.15, PME-PL 0.38, ALE-PL 0.35. MOA length 0.40, front width 0.38, back width 0.36. Clypeus height 0.61, with several long brown hairs. Chelicerae without teeth on margins of fang furrow, dark brown with sparse white hairs, the distal end brownish and armed with dense black hairs. Endites reddish brown with sparse black hairs, the distal end white yellow and armed with dense black hair. Labium 1.12 long, 0.71 wide, reddish brown, the distal end white yellow. Sternum 2.45 long, 2.04 wide, black brown and furnished with sparse black hairs. Legs strong and robust, reddish brown with sparse white short hairs. Tarsal paired claws strong curved and with about nine teeth. Measurements of legs: leg I 16.93 (5.10, 2.24, 4.39, 3.16, 2.04), II 16.22 (5.10, 2.35, 4.08, 3.06, 1.63), III 12.65 (4.18, 1.94, 2.96, 2.04, 1.53), IV 14.79 (4.90, 1.94, 3.77, 2.55, 1.63). Leg formula: 1243. The dorsum of abdomen brown with three lighter stripes with





**Figs. 8–12.** *Storenomorpha falcata* sp. nov. — 8, body of male holotype, dorsal view; 9, left palpal organ, ventral view; 10, same, retrolateral view; 11, same, dorsal view; 12, retrolateral tibial apophysis, ventral view. Scale bars: 1 mm.

dense whitish hairs on median and each lateral parts, the width of median one not uniform, the anterior section wider than the posterior section, the lateral one consists of four abnormality patches in series; a ovoid spot also with dense whitish hairs above the spinnerets (Fig. 8). Venter of abdomen dark brown, lateral with three white patterns in series. Pre-epigastric area dark brown, lateral with two reddish brown and brown spots. Spinnerets brown.

The retrolateral tibial apophysis with a truncated distal margin and two terminal processes, the ventral process digitiform, the dorsal one twisty. Conductor semicircular, massive, the distal end falciform. Embolus filiform, passing into the conductor groove. Median apophysis short and wide (Figs. 9–12).

*Distribution.* Known only from the type locality.

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